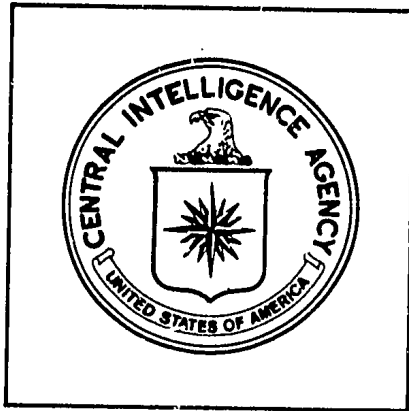


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*Dollar Costs of Soviet Strategic Forces Projected in  
NIE 11-3/8-74 and Under the Vladivostok Accord*

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CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
September 1975

RESEARCH PAPER

Dollar Costs of Soviet Strategic Forces  
Projected in NIE 11-3/8-74 and Under  
the Vladivostok Accord

Preface

This paper presents estimates of what it would cost in constant 1973 dollars to purchase and operate each of the four illustrative future Soviet forces for intercontinental conflict projected in *National Intelligence Estimate 11-3/8-74*. The paper also provides dollar cost estimates for a force consisting of the "Best Estimate" strategic defense force from Force 1 of the NIE and an intercontinental attack force, observing the limitations set forth in the accord signed by President Ford and Soviet Party Secretary Brezhnev at Vladivostok in November 1974.

The cost estimates for these five force projections are detailed in tables and charts, are compared with each other, and are contrasted with the costs of a Soviet intercontinental conflict force estimated to have been in existence for the previous eight years (1967-74). The comparisons are made not only on the basis of the total magnitude of the cost of each force, but also by overall mission (attack versus defense), by separate force--or mission--elements (attack elements such as ICBMs and SSBNs versus defense elements such as SAMs and ABMs), and by resource category (investment versus operation).

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Comments and queries regarding this paper are welcome. They may be directed to [ ] of the Programs Analysis Division, Office of Strategic Research, [ ]

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The Vladivostok limited force dealt with in this paper is detailed as Force A (without collateral constraints) in the interagency intelligence report *Soviet Strategic Policies and Force Options Under the Vladivostok Understanding*, of 3 March 1975 (TCS 889068-75). In both it and the NIE, the forces for which dollar cost estimates were derived were projected through 1985. The cost estimates, however, are made only through 1982. This is because total costs for procurement of equipment and construction of facilities during 1983-85, in order to take account of long lead times, would require estimates of operational forces through 1988.

## Note to the Reader

The cost data in this paper are expressed in dollars and, as such, do not represent the expenditure allocations as the Soviets would view them. Because Soviet military planners take ruble costs into account when making decisions regarding weapon programs, their choices may be different from those which would be made on the basis of dollar costs.

The dollar cost data should not be used in isolation to draw conclusions about Soviet military effectiveness or capabilities. To make such judgments, a different body of weapons-related information must be considered.

The cost data are expressed in constant prices so that changes from year to year reflect only changes in forces and programs and not differences caused by price inflation. The data are expressed in 1973 prices. If a 1974 or 1975 price base were used, the costs presented in this paper would be considerably higher.

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## Summary

This paper presents and compares the estimated dollar costs, for the period 1975-82, of four Soviet forces for intercontinental conflict projected in National Intelligence Estimate 11-3/8-74. Similar treatment, covering the same years, is given for a force projection developed by an interagency intelligence group after considering the limitations set forth in the Vladivostok accord. These costs are compared with those for the Soviet intercontinental conflict force estimated to have been in existence in the years 1967-74. None of the cost estimates for the forces include military RDT&E costs. Key findings (summarized in the graphs on page 16) are the following.

- During the 1975-82 period, total estimated dollar costs for Force 1, the "Best Estimate" of NIE 11-3/8-74, are slightly higher than those for the 1967-74 force. Costs for a force under the limitations provided in the Vladivostok accord remain about the same as those for the 1967-74 period. Under Forces 3 and 4 of the NIE, however, the costs measured in dollars significantly exceed those during 1967-74. Only under NIE Force 2 are the estimated dollar costs lower than those of the 1967-74 period.
- Of all the forces considered, only in NIE Force 4 do the estimated dollar costs for intercontinental attack exceed those for strategic defense. This force is based on the presumption that the Soviets are striving for a wide margin of strategic advantage or to offset an increased US strategic effort.
- For all forces, ICBM costs dominate the total for intercontinental attack programs. Air defense costs (SAM, interceptors, control and warning systems) exceed the combined costs for ABM and ASW programs. The dollar costs for ASW programs, however, are higher in all of the future forces than in the previous eight-year period.

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- Costs for operating the forces exceed those for investment--covering hardware procurement and construction activity--in Forces 1 and 2 and in the Vladivostok limited force. Under the higher projections of Forces 3 and 4, however, investment takes the larger portion.

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Definition, Origin, and Scope of  
the Dollar Cost Estimates

The dollar costs presented in this paper are estimates of what it would cost the US to equip, operate, and maintain the projected Soviet forces. The costs are expressed in dollars to provide an appreciation of the size and overall trends of the forces and programs. The data are presented in constant 1973 prices so that changes from year to year reflect only changes in forces and programs, and not the effects of price inflation.

The dollar costs were derived using a direct costing methodology. This approach begins with a detailed listing of the numbers and types of weapons and units that make up the forces. To these data are applied estimates of the dollar costs to procure the weapons, construct the necessary facilities to make them operational, man the systems, and operate and maintain them. Costs for nuclear weapons are included. The force components are then multiplied by their dollar costs and summed to various levels of aggregation.

The costs measured in dollars for the procurement of major weapon systems are estimated by using cost estimating relationships (CERs) that relate costs to weapon characteristics such as weight, thrust, and type of propellant. The CERs are based on the characteristics and costs of similar US systems. Although the estimative process involves the use of US analogs, the dollar costs reflect our understanding of the physical characteristics and performance of the Soviet weapon systems.

The operating costs of the forces measured in dollars include personnel as well as operations and maintenance (O&M) costs. Dollar costs of Soviet military personnel are calculated by applying average US pay factors to estimates of Soviet military manpower. Some O&M costs are based on US analogy, with adjustments to reflect Soviet differences in operating rates. Other O&M costs such as petroleum, oils, and lubricants

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(POL) are derived by estimating Soviet activity and consumption for each class of weapon and then costing the required quantities of POL in dollars.

Soviet military RDT&E costs are not included in the dollar cost estimates of the forces in this paper. These costs can be estimated only in the aggregate and cannot be allocated among the major military missions. It is apparent, however, that such costs would vary according to the pace of technological development within the forces being considered.

#### Description of the Force Projections

NIE 11-3/8-74 projected four alternative postures for Soviet strategic forces in the next decade. Three of these took account of ICBM launcher limitations imposed by the Interim Agreement reached at the first round of the Strategic Arms Limitation Talks (SALT), while the fourth assumed a lapse of the Agreement in 1977. All four projections assumed ABM levels in accord with the ABM Treaty.\* All of the projections were consistent with currently observed activities and were considered to be within Soviet resource capabilities.

In the Vladivostok accord of November 1974, the US and Soviet leaders agreed to seek an agreement which would impose further limitations on the development of US and Soviet strategic forces. The intelligence community in March 1975 issued new projections of the Soviet offensive force levels which would result from these limitations. The projection addressed

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Force 1: Best Estimate Under Interim  
Agreement Levels

The ABM Treaty and the limits imposed by the Interim Agreement on Soviet ICBM and SLBM launchers remain in effect until the mid-1980s. New Soviet weapon systems are developed and deployed at about the same pace as in the past. The entire ICBM force is retrofitted by 1981 using systems being flight-tested or currently deployed, and a new family of missiles, with substantially improved accuracy, is projected for deployment in the mid-1980s. Soviet defensive efforts are expected to continue presently observed trends with no major breakthroughs in technology. Existing SAM systems are modified, a new long-range fighter-interceptor is introduced, and efforts to increase the quantity and quality of ASW systems are continued.

Force 2: Reduced Level of Achievement Under  
the Interim Agreement

Deployment of new systems is projected to be slower and less extensive than in Force 1. In this reduced level of effort, a replacement program is stretched out two or three additional years, and a new family of missiles is not projected. Slightly less effort is devoted to improving Soviet air and ASW defense than is projected in Force 1.

Force 3: Near Maximum Achievement Under  
the Interim Agreement

A high level of effort is expected to be pursued, and advancements in technological capabilities are assumed. Rapid deployment of new and improved offensive and defensive systems is projected. The entire ICBM force is retrofitted by 1980. The level of effort

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projected in this force is considerably higher than that of the baseline projection of Force 1.

Force 4: Near Maximum Achievement With No  
Offensive Launcher Constraints

It is assumed that the Soviets are already preparing for the termination of the Interim Agreement in 1977. This force presumes an environment of increased hostility in which the Soviets are striving for a wide margin of strategic advantage, or are seeking to offset an expected upswing in the US strategic effort. It is projected that current ABM limitations remain in effect, but that offensive systems will be deployed above those levels agreed to in the Interim Agreement.

Vladivostok Limited Force: Best Estimate Under  
the Offensive Constraints of the Vladivostok Accord

Only strategic attack forces come under the limitations (2,400 delivery vehicles, including no more than 1,320 MIRVs) of the agreement envisioned by the Vladivostok accord. The estimated number of delivery vehicles would be lower than in Force 1, and the number of MIRVed vehicles is significantly lower. An extensive effort at modernization is projected to be undertaken to improve the quality, flexibility, and survivability of the offensive forces.

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Total Force Costs

Total estimated dollar costs for Soviet intercontinental conflict forces during the period 1967-74 are about \$136 billion in 1973 prices. For the 1975-82 period, total dollar costs for the Soviet intercontinental conflict forces projected by Force 1 [ ]

[ ] are estimated to be slightly higher than the 1967-74 level. In an intercontinental conflict force limited by the constraints set forth in the Vladivostok accord, estimated dollar costs remain about the same as during the 1967-74 period. Under Forces 3 and 4 of the NIE, however, the costs measured in dollars significantly exceed those during 1967-74. Only under Force 2 are the estimated dollar costs projected to be lower than those of the 1967-74 period (see graph and table, pages 12 and 13.)

Forces for 1967-74

The dollar costs of the Soviet military effort are developed on the basis of a detailed identification and listing of Soviet forces. The cost estimates for the period 1967-74 (see shaded area on graph, page 12) are consistent with force levels in NIEs covering that period.

Soviet forces for intercontinental conflict measured in dollar terms amounted cumulatively to about \$136 billion over the eight-year period 1967-74. The dollar costs, driven largely by increased costs for defensive systems and for ballistic missile submarines (SSBNs), rose from the beginning of the period to a peak in 1969. After 1969, costs generally declined until 1973, when increases for ICBMs and SSBNs reversed the trend.

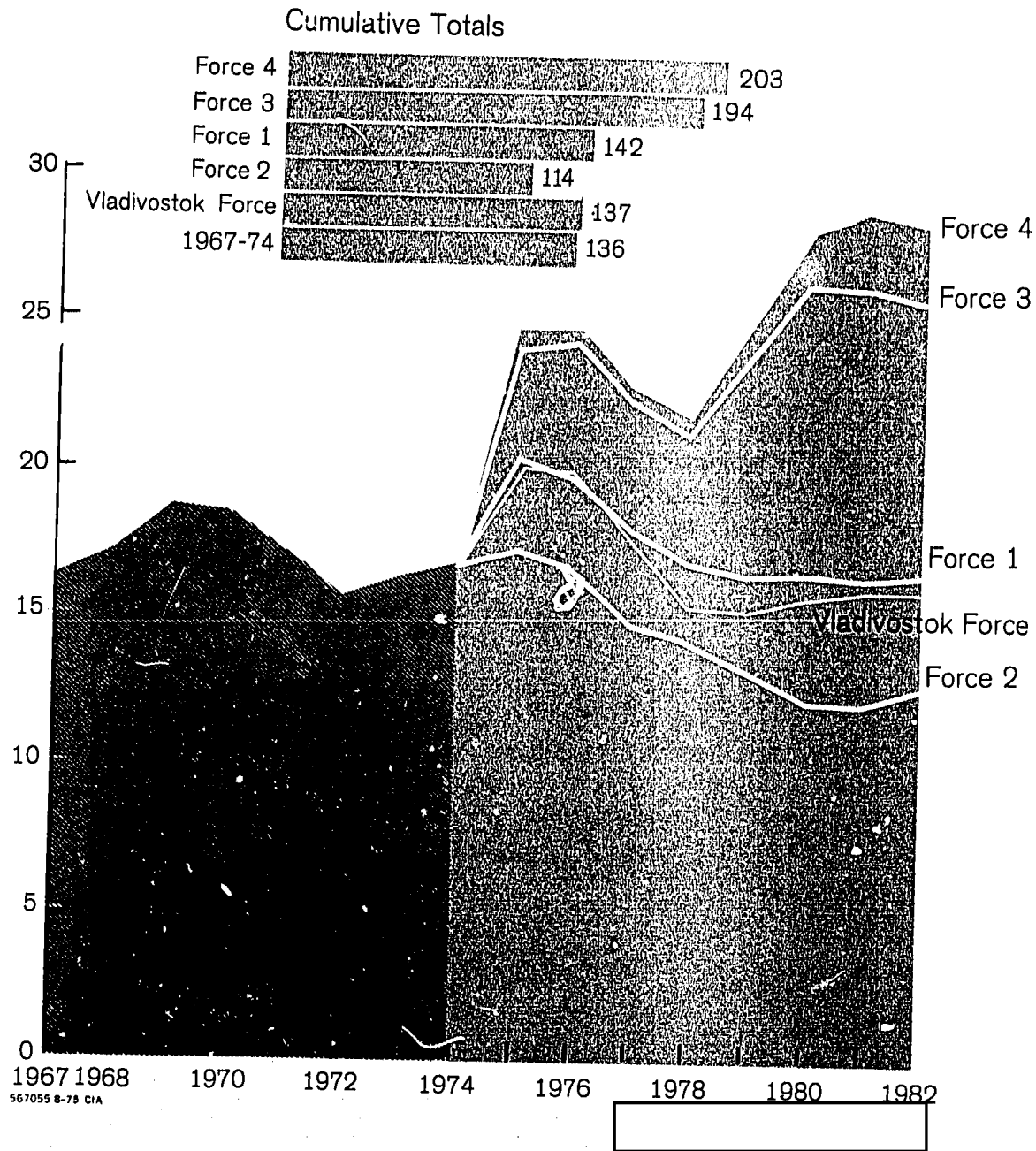
NIE Forces (1975-82)

Dollar costs for NIE Force 1 are estimated to amount cumulatively to about \$142 billion over the period 1975-82. The peak occurs in 1975, when the dollar costs for ICBMs, SSBNs, SAMs, and interceptors are projected to be at their highest for the period. Estimated dollar costs for these systems drop off sharply by 1981, however, when the low for the period is projected.

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# Estimated Total Dollar Costs of Soviet Forces for Intercontinental Conflict, 1967-74 and 1975-82

(billion 1973 dollars)



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Estimated Total Dollar Costs of Soviet  
Forces for Intercontinental Conflict, 1975-82  
(Billion 1973 Dollars)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Annual average 1975-82</u>
Force 1	20.5	19.7	18.0	17.0	16.6	16.7	16.5	16.7	17.7
Force 2	17.3	16.7	14.8	14.3	13.4	12.3	12.2	12.8	14.2
Force 3	24.1	24.3	22.3	21.2	23.6	26.3	26.2	25.8	24.2
Force 4	24.7	24.7	22.6	21.7	24.8	28.0	28.5	28.3	25.4
Vladivostok*	20.2	20.0	17.6	15.6	15.4	15.8	16.0	16.0	17.1

1967-74 Costs: Soviet strategic forces effort measured in dollar terms in 1974 amounted to some \$16.8 billion. It averaged about \$17.0 billion per year during 1967-74.

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Note: Because of rounding, components may not add to the totals shown.





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Under Force 2, which involves a considerable curtailment of Soviet military activity, cumulative dollar costs during 1975-82 amount to only about \$114 billion--about 15 percent less than during 1967-74. As in Force 1, the projected peak year for dollar costs is 1975, when the level of effort in ICBMs is at its highest. Here again, costs are estimated to reach a low in 1981, but a slight upturn due to increases for ICBMs and ASW systems is expected in 1982.

There is only a slight difference in dollar costs between Forces 3 and 4, the latter reflecting higher costs for ICBMs, particularly at the end of the period. Both forces imply dollar costs far above those of Force 1. Cumulative costs in dollar terms during 1975-82 are estimated to be about \$194 billion for Force 3 and \$203 billion for Force 4.

Dollar costs for both forces in 1975 and 1976 are well above the previously high levels and peak in 1980 and 1981 as the level of effort in ICBMs reaches new highs. At no time during 1975-82 are costs for either Force 3 or Force 4 expected to be as low as the peak year of the period 1967-74.

#### Vladivostok Force (1975-82)

Under a force posture consisting of an offensive force within the limitations of the Vladivostok accord and the "most likely" defensive force projected in Force 1 of the NIE, estimated dollar costs over the next eight years amount to about \$137 billion. These estimated dollar costs are slightly lower than those estimated for NIE Force 1 and almost equivalent to the estimated dollar costs for the previous eight-year period.

As in Forces 1 and 2, the peak year for dollar costs during the 1975-82 period is projected to be 1975 and is due largely to the high dollar costs of ICBMs. Estimated dollar costs for the Soviet strategic force limited by the accord at Vladivostok surpass those for the offensive forces estimated in Force 1 in 1976 because of slightly higher costs of the ICBM and SSBN programs. Offensive forces projected under this Force account for a somewhat smaller proportion of the total estimated dollar costs than in Force 1.

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Costs on a Mission Basis--  
Attack vs. Defense

On a mission basis, estimated dollar costs for strategic defense are higher than for attack under Force 1, under the Vladivostok limited force (for which Force 1's strategic defense projections are used), and under Force 2. This was also the case during 1967-74. Under Force 3, the costs for both defense and attack are about equal. Only for Force 4 do the estimated dollar costs for intercontinental attack exceed those for strategic defense (see graphs and table, pages 16 and 17).

Costs of defensive forces were relatively stable throughout the 1967-74 period, as increases for some of the systems were generally offset by decreases elsewhere. The dollar costs of intercontinental attack forces, although accounting for less of the total estimated dollar costs than the defensive forces, were more volatile.

Under NIE Forces 1 and 2 and the Vladivostok limited force, the dollar costs of forces for strategic defense during 1975-82 still dominate as in the past, but not by as large a margin. Estimated dollar costs of defensive forces under Force 1 and the Vladivostok limited force fluctuate even less than in the 1967-74 force, but offensive force costs in dollar terms for both of these forces are estimated to fluctuate to a greater degree than in the past.

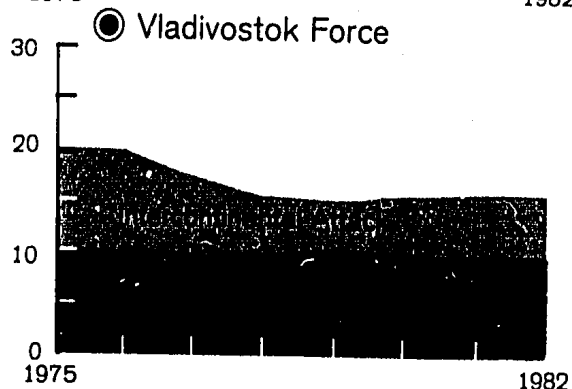
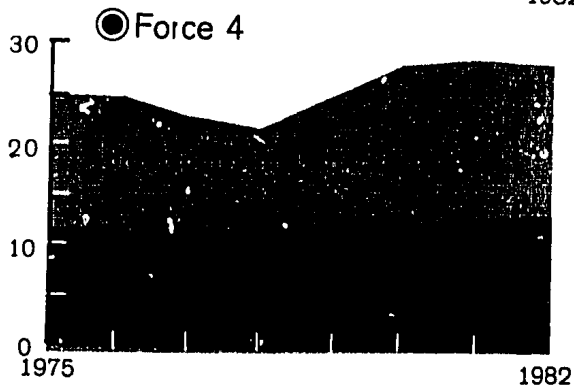
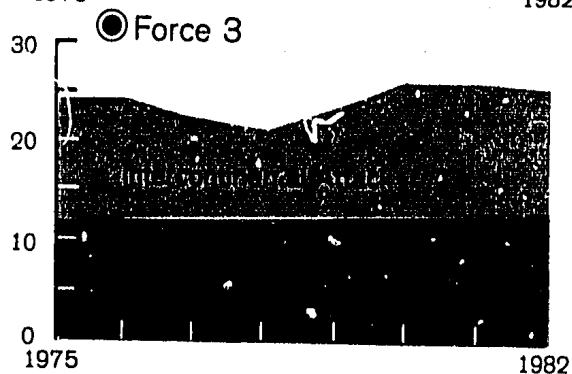
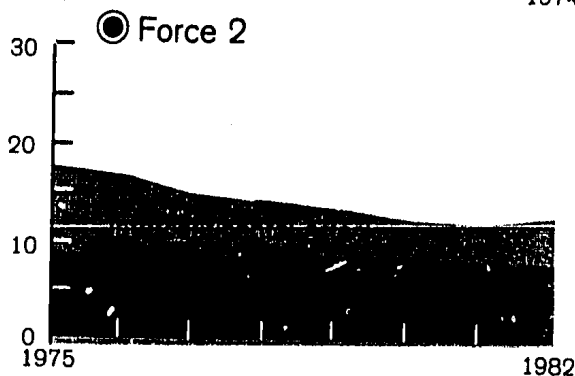
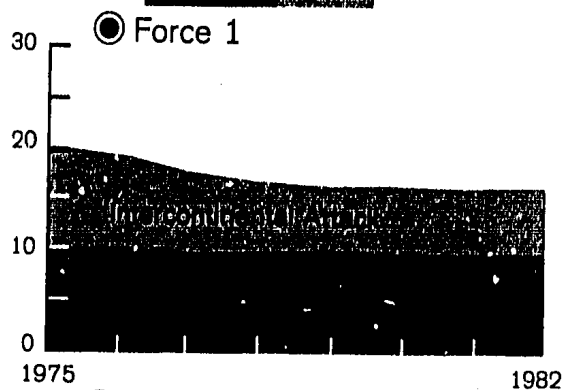
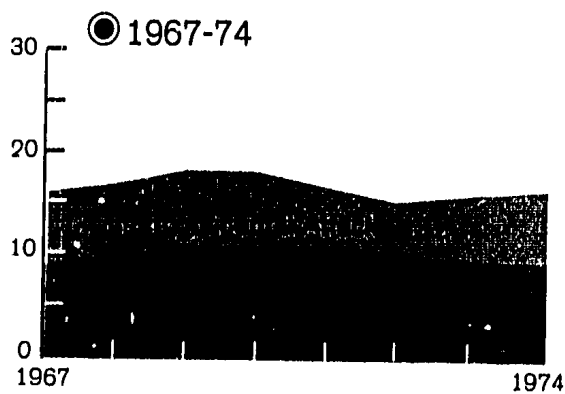
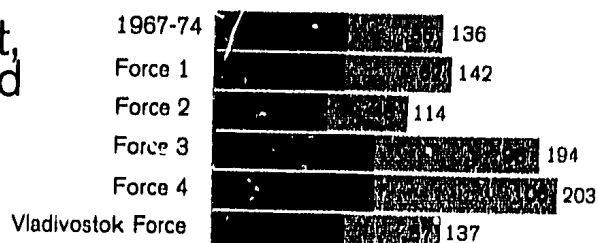
Dollar costs for strategic defense under Forces 3 and 4 no longer dominate. Dollar costs for attack and defense are nearly equivalent under Force 3, while dollar costs for intercontinental attack are dominant under Force 4. Similar to the other NIE forces, however, is the fluctuation of costs under Forces 3 and 4. In both forces, dollar costs for strategic defense remain relatively stable in comparison to those for intercontinental attack, which exhibit a considerable degree of fluctuation.

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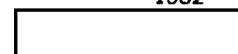
# Estimated Dollar Costs of Soviet Forces for Intercontinental Conflict, by Mission, 1967-74 and 1975-82

(billion 1973 dollars)

● Cumulative Totals



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Estimated Dollar Costs of Soviet Forces  
for Intercontinental Conflict, by Mission, 1975-82  
(Billion 1973 Dollars)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Annual average 1975-82</u>
Intercontinental Attack									
Force 1	10.5	9.6	8.1	7.2	6.5	6.8	6.7	6.9	7.8
Force 2	8.3	7.9	6.3	5.6	4.8	3.9	4.1	4.8	5.7
Force 3	12.3	12.2	10.5	9.4	11.6	13.9	13.4	12.8	12.0
Force 4	12.9	12.7	10.7	9.9	12.7	15.7	15.7	15.3	13.2
Vladivostok	10.2	9.9	7.6	5.8	5.3	5.9	6.2	6.2	7.2
Strategic Defense									
Force 1*	10.0	10.1	9.9	9.8	10.1	9.9	9.8	9.8	9.9
Force 2	9.0	8.7	8.5	8.8	8.6	8.4	8.1	8.0	8.5
Force 3	11.8	12.0	11.9	11.8	12.1	12.4	12.8	13.0	12.2
Force 4	11.8	12.0	11.9	11.8	12.1	12.4	12.8	13.0	12.2

1967-74 Costs: Costs for Soviet intercontinental attack forces, measured in 1973 dollar terms, amounted to some \$7.2 billion in 1974 and averaged \$6.9 billion per year during the period 1967-74. The strategic defense effort cost \$9.6 billion in 1974 and averaged \$10.1 billion during 1967-74.

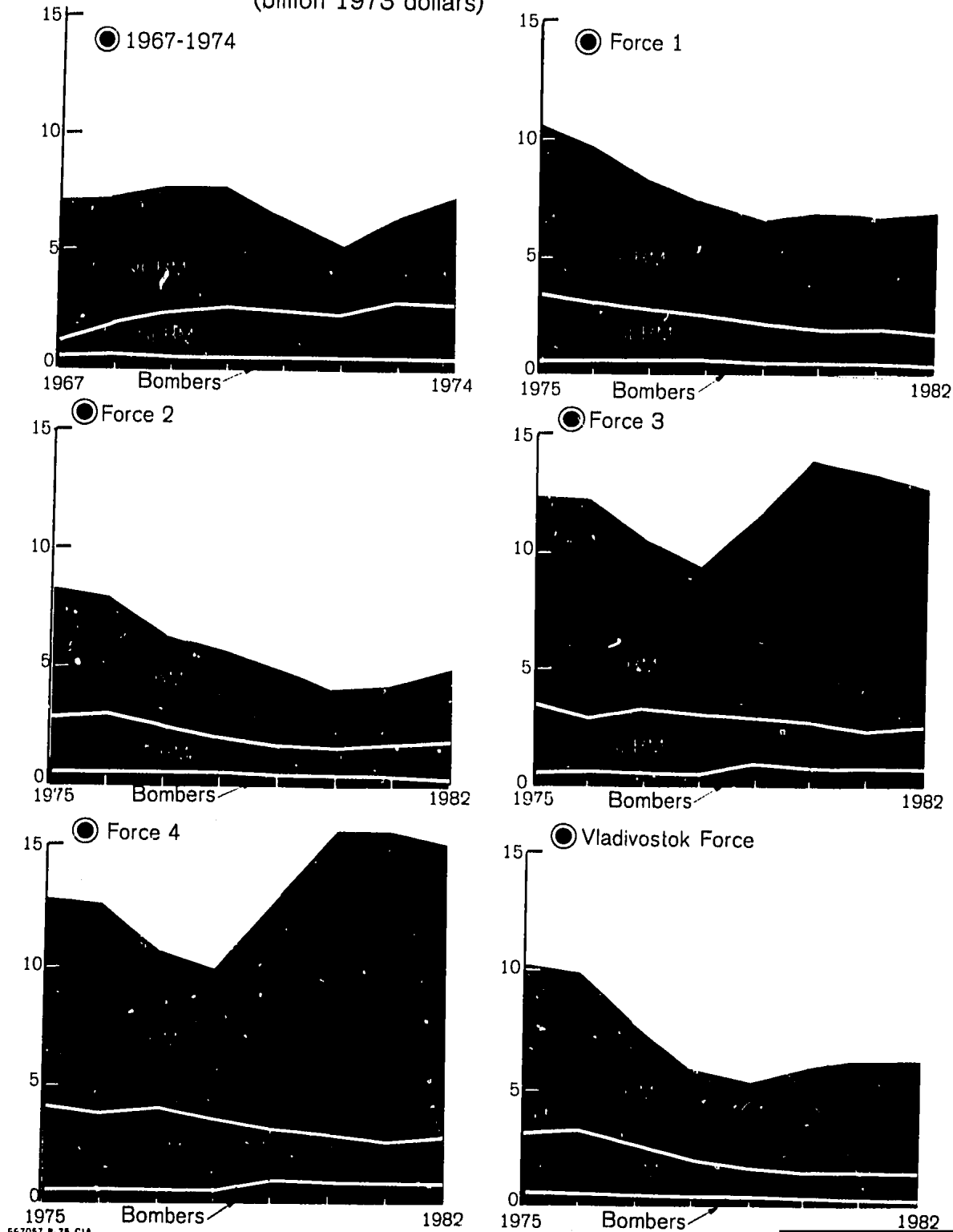
Note: Because of rounding, components may not add to the totals shown.

\* This defensive force is also used in conjunction with the Vladivostok limited intercontinental attack force.

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# Estimated Dollar Cost of Soviet Intercontinental Attack Forces, by Force Element, 1967-74 and 1975-82

(billion 1973 dollars)



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Estimated Dollar Costs of Soviet Intercontinental  
Attack Forces, by Force Element, 1975-82  
(Billion 1973 Dollars)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Annual average 1975-82</u>
Force 1									
ICBM	7.3	6.7	5.6	4.8	4.5	5.0	4.9	5.1	5.5
SLBM	2.7	2.4	2.1	1.9	1.6	1.4	1.4	1.4	1.9
Bombers	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4
Total	10.5	9.6	8.1	7.2	6.5	6.8	6.7	6.9	7.8
Force 2									
ICBM	5.5	5.0	3.9	3.7	3.3	2.4	2.5	3.0	3.7
SLBM	2.3	2.4	1.9	1.4	1.1	1.0	1.2	1.4	1.6
Bombers	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4
Total	8.3	7.9	6.3	5.6	4.8	3.9	4.1	4.8	5.7
Force 3									
ICBM	8.9	9.3	7.2	6.3	8.6	11.2	11.2	10.3	9.1
SLBM	2.9	2.4	2.8	2.6	2.0	1.9	1.5	1.8	2.2
Bombers	0.5	0.5	0.5	0.5	0.9	0.8	0.8	0.7	0.6
Total	12.3	12.2	10.5	9.4	11.6	13.9	13.4	12.8	12.0
Force 4									
ICBM	9.0	9.0	6.9	6.4	9.6	12.8	13.2	12.6	9.9
SLBM	3.5	3.2	3.4	3.0	2.2	2.1	1.8	2.0	2.6
Bombers	0.5	0.5	0.5	0.5	0.9	0.8	0.8	0.8	0.7
Total	12.9	12.7	10.7	9.9	12.7	15.7	15.7	15.3	13.2
Vladivostok limited force									
ICBM	7.2	6.8	5.0	3.8	3.6	4.4	4.8	4.8	5.1
SLBM	2.5	2.6	2.2	1.6	1.3	1.1	1.1	1.1	1.7
Bombers	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.4
Total	10.2	9.9	7.6	5.8	5.3	5.9	6.2	6.2	7.2

Note: Because of rounding, components may not add to the totals shown.

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Costs of Intercontinental Attack Elements

As during 1967-74, dollar costs for intercontinental attack for all four Soviet forces projected by NIE 11-3/8-74 and for the Vladivostok limited force are dominated by costs for ICBMs. The trends and levels of the estimated dollar costs, however, vary considerably among these five forces and differ from those of the 1967-74 period (see graphs and table, pages 18 and 19).

Forces for 1967-74

During 1967-74, the equivalent of some \$55 billion was devoted to intercontinental attack forces. Most of this--about \$37 billion--was associated with the Soviet ICBM buildup. The Soviet SLBM program cost the equivalent of some \$14 billion, with the intercontinental bomber force costing about \$4 billion.

NIE Forces (1975-82)

Under Force 1 intercontinental attack elements are estimated to cost a total of about \$7 billion more in dollar terms during 1975-82 than during 1967-74. In Force 2 the cost of attack elements drops by \$9 billion. Almost all of this increase in Force 1 is associated with the projected deployment of new-generation ICBMs--the SS-X-16, SS-17, SS-18, and SS-19. The reduction under Force 2 falls almost entirely on ICBMs. Dollar costs for SLBM and bomber forces are not expected to change substantially in either force.

In Forces 3 and 4, estimated dollar costs for intercontinental attack systems projected are expected to be almost double the level of the 1967-74 period. Again, the main contributing factor is the ICBM program. Estimated dollar costs for ICBMs in Force 3 are almost twice those estimated for the 1967-74 period; costs for ICBMs under Force 4 are even higher. Costs of SLBM forces rise under both force projections, with Force 4 showing the bigger increase. Bomber costs in dollar terms are also estimated to be somewhat higher under Forces 3 and 4.

Vladivostok Force (1975-82)

The dollar costs for intercontinental attack forces within the limitations of the Vladivostok accord are

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estimated to total about \$57 billion during 1975-82. This is about 2 billion higher than the estimated dollar cost for the attack forces during the previous eight-year period. Dollar costs for SLBMs and bombers remain about the same, but costs for ICBMs are estimated to total about \$40 billion--an increase of about \$3 billion.

The total estimated dollar cost for a Vladivostok limited intercontinental attack force is estimated to be about \$5 billion less than that estimated for Force 1 of NIE 11-3/8-74. Total dollar costs, however, exceed those for the "low" estimate of the NIE--Force 2 --by about \$12 billion.

### Costs of Strategic Defense Elements

Under the strategic defense forces discussed, the dollar costs of air defense systems (SAMS, interceptors, and control and warning systems) during the 1967-74 period are larger than the combined costs of ABM and ASW programs. This remains true for each of the forces projected by the NIE. The dollar costs of ASW programs, however, are higher than in the previous eight-year period for all of the forces (see graphs and table, pages 22 and 23).

### Forces for 1967-74

Of the \$136 billion that the Soviet forces for intercontinental conflict are estimated to have cost during 1967-74, about \$81 billion went for defensive weapon systems. Of this, nearly \$60 billion was devoted to weapon systems for defense against the US bomber threat--SAMS, interceptors, and control and warning systems--with SAMS the largest single cost item. ASW forces accounted for most of the remainder --nearly \$20 billion, with only about \$2 billion allocated to ABM systems.

### NIE Forces (1975-82)

The dollar costs of weapon systems for strategic defense under NIE Force 1--about \$79 billion--are estimated to be slightly less than during 1967-74. In this projection, ASW forces are the largest cost item, at \$27 billion. Dollar costs for SAMS and interceptors fall below the 1967-74 level; on the other

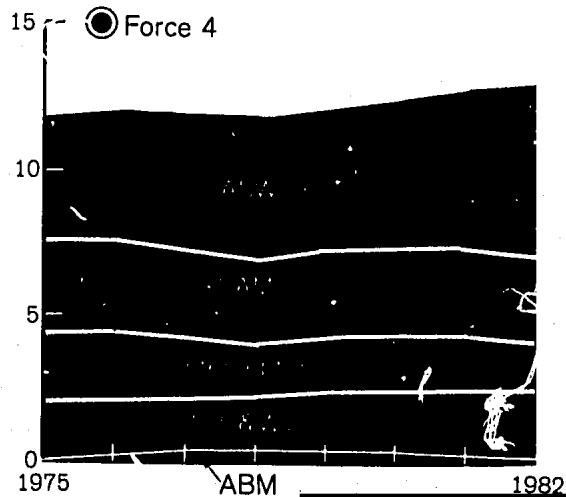
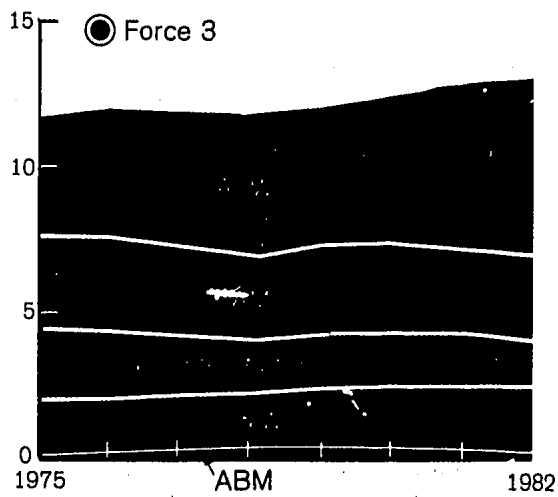
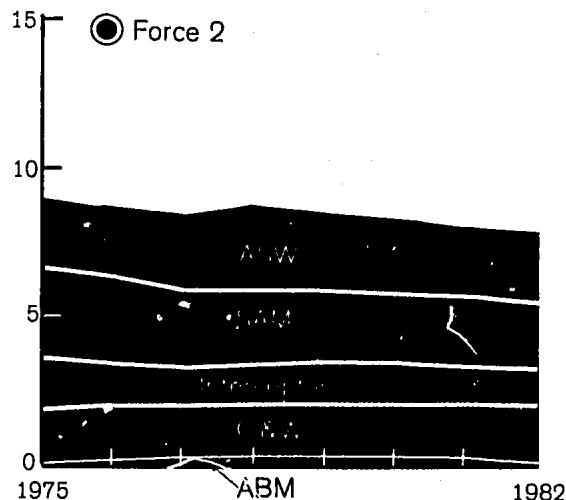
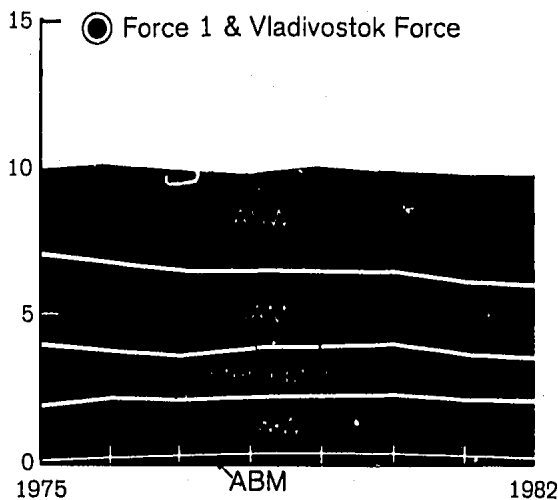
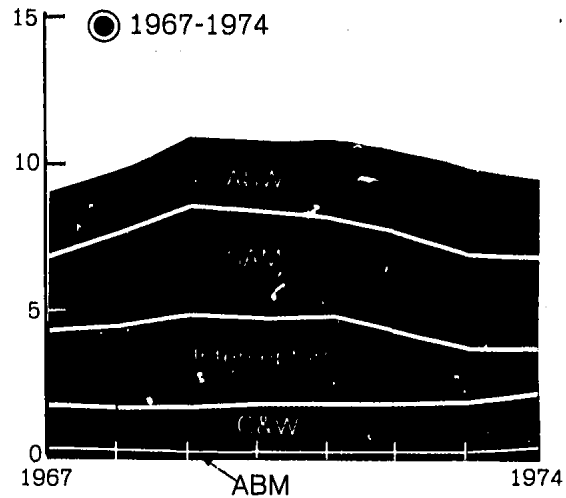
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# Estimated Dollar Costs of Soviet Strategic Defense Forces, by Force Element, 1967-74 and 1975-82

(billion 1973 dollars)



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Estimated Dollar Costs of Soviet Strategic Defense  
Forces, by Force Element, 1975-82  
(Billion 1973 Dollars)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Annual average 1975-82</u>
<b>Force 1</b>									
ASW	2.9	3.3	3.4	3.4	3.6	3.5	3.5	3.7	3.4
SAMs	3.1	3.0	2.9	2.7	2.6	2.5	2.5	2.4	2.7
Interceptors	2.1	1.7	1.5	1.6	1.6	1.7	1.5	1.4	1.6
C&W	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9
ABM	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2
Total	10.0	10.1	9.9	9.8	10.1	9.9	9.8	9.8	9.9
<b>Force 2</b>									
ASW	2.4	2.5	2.6	2.9	2.7	2.6	2.4	2.5	2.6
SAMs	3.0	2.9	2.6	2.5	2.4	2.3	2.3	2.2	2.5
Interceptors	1.7	1.4	1.3	1.3	1.4	1.4	1.3	1.2	1.4
C&W	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.8
ABM	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2
Total	9.0	8.7	8.5	8.8	8.6	8.4	8.1	8.0	8.5
<b>Force 3</b>									
ASW	4.2	4.5	4.7	4.8	4.9	5.1	5.7	6.0	5.0
SAMs	3.2	3.2	3.0	2.9	3.0	3.0	3.0	3.0	3.0
Interceptors	2.4	2.3	2.0	1.8	1.8	1.9	1.8	1.7	2.0
C&W	1.8	1.9	1.9	1.9	2.1	2.1	2.2	2.2	2.0
ABM	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Total	11.8	12.0	11.9	11.8	12.1	12.4	12.8	13.0	12.2
<b>Force 4</b>									
ASW	4.2	4.5	4.7	4.8	4.9	5.1	5.7	6.0	5.0
SAMs	3.2	3.2	3.0	2.9	3.0	3.0	3.0	3.0	3.0
Interceptors	2.4	2.3	2.0	1.8	1.8	1.9	1.8	1.7	2.0
C&W	1.8	1.9	1.9	1.9	2.1	2.1	2.2	2.2	2.0
ABM	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Total	11.8	12.0	11.9	11.8	12.1	12.4	12.8	13.0	12.2

## Vladivostok

limited force The Vladivostok accord does not involve strategic defense forces. However, when estimating costs for intercontinental conflict forces under the accord, the Force 1 strategic defense forces are used.

Note: Because of rounding, components may not add to the totals shown.

hand, the estimated dollar costs for control and warning are slightly higher. ABM costs--because of the arms limitation agreement with the US--remain at about the same projected level as before.

In Force 2, as in Force 1, dollar costs for SAMs and interceptors are estimated to be below those of the 1967-74 period, and control and warning costs measured in dollars are projected to be somewhat higher. Dollar costs for ASW and ABM remain almost the same.

Under Forces 3 and 4, the dollar costs of strategic defensive weapons are about 20 percent higher than the 1967-74 level. Dollar costs for ASW are estimated to double, amounting to about \$40 billion during 1975-82. The projected effort for control and warning measured in dollar terms increases slightly, estimated dollar costs for ABMs remain level, whereas SAM and interceptor costs in dollar terms are projected to decline.

#### Vladivostok Force (1975-82)

The Vladivostok accord does not involve strategic defense forces. However, when estimating costs for intercontinental conflict forces under the accord, the Force 1 strategic defense forces are used.

#### Resource Costs: Investment and Operating

##### Forces for 1967-74

Dollar costs for Soviet intercontinental conflict forces during 1967-74 were almost evenly divided on a resource usage basis.\* The distribution of resources by mission, however, varied considerably. Operating costs expressed in terms of dollars for

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\* Operating costs include personnel outlays and operation and maintenance expenses, and investment costs cover hardware procurement (including nuclear weapons) and construction activity.

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Estimated Dollar Costs of Soviet Intercontinental Conflict  
 Forces, by Resource Use, 1967-74 and 1975-82  
*(Billion 1973 Dollars)*

	<u>1967-74</u>	<u>1975-82</u>				
		<u>Force 1</u>	<u>Force 2</u>	<u>Force 3</u>	<u>Force 4</u>	<u>Vladivostok</u>
Investment						
Attack	36	42	27	75	83	38
Defense	32	24	16	37	37	24
Subtotal	<u>67</u>	<u>66</u>	<u>43</u>	<u>112</u>	<u>120</u>	<u>62</u>
Operating						
Attack	19	20	18	21	23	19
Defense	50	56	52	61	61	56
Subtotal	<u>69</u>	<u>76</u>	<u>71</u>	<u>82</u>	<u>84</u>	<u>75</u>
Total	<u>136</u>	<u>142</u>	<u>114</u>	<u>194</u>	<u>203</u>	<u>137</u>

Because of rounding, components may not add to the totals shown.

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strategic defense forces were more than 50 percent higher than those for investment. Dollar costs for investment in intercontinental attack forces, on the other hand, were almost twice those for operating the forces (see table, page 25).

#### NIE Forces (1975-82)

The forces deployed under NIE Force 1 are estimated to cost slightly more in dollar terms to operate than the forces in existence during 1967-74 because of the larger inventory of weapons. Total dollar costs for investment during 1975-82, however, are estimated to be about the same as in the previous period.

The increase in dollar costs for operating in Force 1 is largely attributable to defensive systems, with SAMs by far the most expensive system in terms of dollars to operate. ASW forces are projected to replace control and warning systems as the second largest cost item during 1975-82. In total, dollar-valued operating costs remain relatively stable throughout the period.

The dollar costs for investment in intercontinental attack forces during 1975-82 for Force 1 are estimated to be nearly twice those for defense, with procurement of ICBMs the major cost item. Investment for defensive forces is estimated to be substantially less than during 1967-74. Dollar costs for ASW investment increase, but the previously high dollar costs for SAM investment decline sharply to a negligible amount by the end of the period.

Although total dollar costs for Force 2 are estimated to be significantly lower during 1975-82 than the previous eight years, operating costs expressed in terms of dollars are estimated to be near the level of the earlier period. Defensive systems projected in this force account for the larger dollar operating costs, with SAMs the most expensive weapon system.

Under Force 2, investment in dollar terms is projected to be sharply curtailed in comparison with 1967-74, with cutbacks in both intercontinental attack and defense forces. The cuts are most noticeable after 1978 when few new weapon systems are projected.

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Operating and investment costs in dollar terms are estimated to be higher for both Forces 3 and 4 during 1975-82 than for forces in 1967-74. Most of the increase in dollar costs is for investment in new weapon systems, and for these forces the estimated dollar costs for investment exceed those for operating--the reverse is true for the other forces. Most of the estimated increases are for the intercontinental attack forces, with increases in costs for ICBMs being the largest. Heavy investment is projected for ICBMs in 1975 and 1976, but even larger investments are expected to occur during the period 1980-82 if follow-on ICBM systems are deployed as postulated. Total dollar operating costs are projected to increase over the 1967-74 period for both forces, with the greater increases in the costs of defensive weapons.

#### Vladivostok Force (1975-82)

The Vladivostok force would cost in dollar terms about \$75 billion to operate during the 1975-82 period. This is about \$6 billion more than during the previous eight-year period. Dollar-valued investment for such a force, however, would be \$5 billion less than during 1967-74.

As in Force 1, dollar investment costs for intercontinental attack are estimated to be considerably higher than the dollar costs for strategic defense investment. Also as in Force 1, the dollar costs for operating and maintaining the strategic defense forces are about three times those for intercontinental attack. Both investment and operating costs for this force, however, are lower in dollar terms than those estimated for Force 1.

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